

REMARKS

This is intended as a full and complete response to the Final Office Action dated November 19, 2009, having a shortened statutory period for response set to expire on February 19, 2010. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1 and 3-7, and 10-24 remain pending in the application and are shown above. Claims 1 and 3-22 stand rejected by the Examiner. Reconsideration of the rejected claims is requested for reasons presented below.

Independent claims 1, 21, and 22 have been amended. Claims 8-9 have been cancelled by Applicant without prejudice. New claim 23 is added to claim subject matter not previously claimed. Basis for amendment to claims 1, 21, and 22 can be found in claims 8 and 9. New claim 23 is based on the original “and/or” wording of claim 7, and a plurality of passages referred to in the specification, those being for example the passages referring to FIGS. 3A, 3B, 3C, 3D, and 7A. In these Figures arrows in X-directions and Y-direction are shown. Further, it is explicitly described with respect to Fig. 4d, that deformed or contaminated sections can be replaced. New claim 24 is based on page 9 line 28 to page 10 line 3 of the specification. Applicant submits that no new matter has been introduced in this amendment and respectfully requests the Examiner enter this proposed amendment.

Claim Rejections – 35 U.S.C. § 103

Claims 1-7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kawanami et al* (U.S. Patent No. 5,065,034, hereafter *Kawanami*) in view of *Lischke et al* (U.S. Patent No. 4,899,060, hereafter *Lischke*). Applicant respectfully submits that this rejection renders moot in view of Applicant’s amendment to claim 1 by including limitations from claims 8 and 9, which are not rejected under this rejection. Withdrawal of this rejection is respectfully requested.

Claims 8-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kawanami* in view of *Lischke*, and further in view of *Wollnik* (U.S. Patent No. 3,610,734, hereafter *Wollnik*). Applicant respectfully traverses the rejection.

Kawanami and *Lischke* are in Response to Final Office Action filed on January 19, 2010. The combination of *Kawanami* and *Lischke* does not teach or suggest that the first means and second means for moving the members each move the respective members independently in two orthogonal directions as set forth in the independent claim 1.

Wollnik discloses a temperature-controlled orifice or slit for optical, ion-optical, and electron-optical instructions, comprising of one or more pairs of slit-defining platelet-shaped jaws which serve to vary the width of an orifice or slit formed by the inner edges of the jaws (Abstract). *Wollnik* teaches, in Figure 5, eight jaws 52-59 attached to a ring 51 to define an iris diaphragm and the thermal expansion of ring 51 moves the jaws 52-59 simultaneously to change the iris diaphragm (column 4, lines 27-38). Just like *Kawanami* and *Lischke*, *Wollnik* also does not teach or suggest means for moving each member independently in two orthogonal directions.

In rejecting claim 9, now incorporated in amended claim 1, the Examiner asserted that it would be obvious for ordinary artisan to modify *Kawanami* by having a means for each member for having greater control of the shape of the aperture and it would be obvious to have multiple members because merely duplication of the essential working parts of a device involves only routine skill in the art. Applicant respectfully disagrees.

In optical applications, duplication of elements is not always routine skill in the art as found by the Examiner. Having for example three elements changes the shape of the beam. In optics it has a large influence whether a beam has a round shape, has a triangular shape, a rectangular shape or the like. Aberrations, which are inherently introduced and which are often reduced by correction elements have different orders and different behaviors dependent on the shape of the beam.

Applicant herein submits Evidence 1, an excerpt of a textbook on “geometrical optics”, and Evidence 2, an excerpt from a text book on “electron optics”. Evidence 1 teaches that geometrical optics is mainly based on Gauss’ theories, which means that beams are rotational symmetric. In Evidence 2, an excerpt from a textbook of electron optics, it is also referred to Gaussian beams and deviations thereof. Using a different number of blocking elements, as described in the present application, results in non-rotational symmetric beams, which in turn results in deviations from what is considered standard optical theories. Accordingly, complex aberrations are introduced, which are difficult to compensate for when irregular shaped beams are provided. Thus, duplication of elements has many influences. These influences are known to a skilled person. Thus, a duplication is not a mere duplication and can not be considered obvious for a skilled person.

Additionally, the Examiner’s approach seems to be an ex-post facto analysis. *Kawanami* teaches one drive unit for all blocking elements. *Lischke* mostly teaches in the direction that only one element is moved. In column 4 lines 35-60, which is referred to by the Examiner, there is no teaching of moving both elements. Actually, a person skilled in the art would recognize that it would be advantageous for *Lischke* to move only one element because the border of the beam would be known which would be beneficial for the lithography process. Accordingly, even though column 5 lines 30-35 mentions the option of moving two diaphragms, the teaching of *Lischke* is to move only one diaphragm in light of the preferred conditions for lithography. Using *Lischke* as giving a hint towards independent movement of both elements seems to be clearly done with knowledge of the claimed subject-matter. Beyond that, *Wollnik* teaches the use of one drive for eight (not seven as stated by the Examiner) blocking elements. Thus, if the teaching of *Kawanami*, *Lischke*, and *Wollnik* would be taken together, there is no hint or suggestion that would lead a skilled person in the direction of using three or more blocking elements with a moving device for independent movement.

Further more, none of the cited references teaches a two-dimensional movement for each of the blocking elements. *Lischke* merely mentions that both elements can be moved

in the same or in different directions in column 5 lines 32-35, but is silent with respect to moving one element in two directions.

Therefore, the combination of *Kawanami* and *Lischke* and *Wollnik* also does not teach or suggest the subject matter set forth in amended claim 1, and claims dependent thereon.

Accordingly, claims 1, 3-7, and 10-17 are in condition for allowance. Withdrawal of this rejection is respectfully requested.

Claims 18-19 and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kawanami* in view of *Lischke* and further in view of *Szilagyi* (U.S. Patent No. 4,963,748, hereafter *Szilagyi*). Applicant respectfully traverses the rejection.

Kawanami and *Lischke* are discussed above. *Szilagyi* is cited for teaching an octopole component. However, *Szilagyi* does not teach or suggest subject matter set forth in amended claim 1, on which claims 18-19 are dependent, and in amended claim 21.

Accordingly, claims 18-19 and 21 are in condition for allowance. Withdrawal of this reference is respectfully requested.

Claims 20 and 22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kawanami* in view of *Lischke* and further in view of *Wollnik* as applied to claim 8 above, and further in view of *Nakasugi* (U.S. Publication No. 2004/0149935, hereafter *Nakasugi*). Applicant respectfully traverses the rejection.

Kawanami, *Lischke*, and *Wollnik* are discussed above. *Nakasugyi* is cited for teaching rectangular and triangular apertures. However, *Nakasugi* does not teach or suggest the subject matter as set forth in amended claim 1, on which claim 20 is dependent, and in amended claim 22.

Accordingly, claims 20 and 22 are in condition for allowance. Withdrawal of this reference is respectfully requested.

Double Patenting

Claims 1-22 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-22 of copending Application No. 11/923,438.

Applicant respectfully submits that Application No. 11/923,438 has an outstanding Office Action dated August 31, 2009 which has not been responded as of February 18, 2010, and Application No. 11/923,438 also does not have any continuing or divisional applications pending at this time. Applicant respectfully requests the Examiner to examine the status of Application No. 11/923,438 when reconsidering the amended claims.

The Applicants provisionally agree to file a terminal disclaimer to resolve the present double patenting rejection if one of these applications is finally allowed while the other is pending. In accordance with MPEP §804(I)(B), "if the 'provisional' double patenting rejection in one application is the only rejection remaining in that application, the examiner should then withdraw that rejection and permit the application to issue as a patent, thereby converting the 'provisional' double patenting rejection in the other application(s) into a double patenting rejection at the time one application issues as a patent." As such, Applicants will file a terminal disclaimer in the future, if necessary.

New Claims

New claims 23 and 24 are dependent on claim 1, which is allowable for reasons discussed above. Regarding claim 23, having two motors for driving each member enables adjustment and replacement of respective edge of each member. Regarding claim 24, lateral edge is further defined to clarify the claimed subject matter. Accordingly, allowances of new claims 23 and 24 is respectfully requested.

In conclusion, the references cited by the Examiner, alone or in combination, do not teach, show, or suggest the invention as claimed.

Having addressed all issues set out in the Final Office Action, Applicant respectfully submits that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,

By 

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